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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,328	08/26/2003	Paul A. Knight	ISOT-018	4606
7590 06/13/2005			EXAMINER	
Michael S. Neustel Suite No. 4 2534 South University Drive Fargo, ND 58103			PAPE, ZACHARY	
			ART UNIT	PAPER NUMBER
			2835	

DATE MAILED: 06/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/649,328

Applicant(s)

KNIGHT ET AL.

Examiner

Zachary M. Pape

Art Unit

2835

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8/26/2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/26/2004, 4/4/2005.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to because in **Fig 1 the dry chamber notation is not proper. Element 50 points to the pipe containing the fluid, rather than to the dry chamber itself.** Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Claim Objections*

2. Claim 3 is objected to because of the following informalities: Claim 3 states that the coolant system is positioned within the wet chamber. It appears that the claim

should read, "the coolant system is positioned within the dry chamber" as taught in claim 11. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young et al. (WO 01/01741) in view of Roberts et al. (US 20050001334). With respect to claim 1, Young et al. teaches the use of a spray cool system with a dry access chamber, comprising: a chassis (10) having a wet chamber (24) and a dry chamber (26), wherein said wet chamber is for thermally managing an electronic device by applying liquid coolant to an electronic device within said wet chamber (Page 6, Lines 24-27). Young et al. fails to teach the use of a dry access door removably attached about said dry chamber; and a wet access door removably attached about said wet chamber. Roberts et al. teaches the use of a cooling system comprising wet (24) and dry (22) chambers with a cover (26a, and 38) for each respectively. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the separate covers of Roberts et al. with the spray cooling system of Young et al. to provide a means of gaining access to each chamber separately (Page 2, Paragraph 24). Providing access to each chamber separately allows the user to reduce exposure

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of the internal components of each chamber to the elements, which could cause damage to the components. Additionally Young et al. further teaches that the access door (32) is capable of sealing the wet chamber (Page 6, Line 1).

With respect to claim 2, Young et al. further teaches that the wet chamber includes a coolant spray system (Page 6, Lines 23-27).

With respect to claims 3 and 12, Young et al. further teaches that the coolant spray system is comprised of components chosen from the group consisting essentially of a spray unit (56, 62), a sensor, a card cage (Comprising 60), an intake valve (42) and a condenser.

With respect to claim 4, as best can be understood by the examiner Young et al. further teaches that the coolant spray system is fluidly connected to a coolant system positioned within said wet chamber (Via hoses 38 and 46).

With respect to claim 5, Young et al. further teaches that the dry chamber includes a coolant system fluidly connected to said wet chamber (Via 38).

With respect to claims 6 and 13, Young et al. further teaches that the coolant system is fluidly connected to a spray unit positioned within said wet chamber (Via 46).

With respect to claims 7 and 14, Young et al. further teaches that the coolant system is comprised of components chosen from the group consisting essentially of a filter, a pump (36), a heater, a sensor and a separator (44).

With respect to claims 8 and 15, Young et al. further teaches that the dry access door is capable of sealing said dry chamber (Page 6, Line 1).

With respect to claims 9 and 16, Young et al. further teaches that the dry chamber is adjacent to said wet chamber within said chassis (As illustrated in Fig 1).

With respect to claims 10 and 17, Young et al. further teaches that the dry chamber is sealed from said wet chamber (Divider 22 provides a seal between the two chambers. Additionally, Young teaches that each chamber is sealed and therefore implies that the dry chamber is sealed from the wet chamber with divider 22 being an integral part of the seal).

With respect to claim 11, Young et al. teaches the use of a spray cool system with a dry access chamber, comprising: a chassis (10) having a wet chamber (24) and a dry chamber (26), wherein said wet chamber is for thermally managing an electronic device by applying liquid coolant to an electronic device within said wet chamber; wherein said wet chamber includes a coolant spray system for thermally managing an electronic device (Page 6, Lines 24-27); wherein said dry chamber (26) includes a coolant system (Comprising 36 and 44) fluidly connected to said coolant spray system (Via 38 and 46). Young et al. fails to teach the use of a dry access door removably attached about said dry chamber; and a wet access door removably attached about said wet chamber. Roberts et al. teaches the use of a cooling system comprising wet (24) and dry (22) chambers with a cover (26a, and 38) for each respectively. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the separate covers of Roberts et al. with the spray cooling system of Young et al. to provide a means of gaining access to each chamber separately (Page 2, Paragraph 24). Providing access to each chamber separately allows the user to reduce

exposure of the internal components of each chamber to the elements, which could cause damage to the components. Additionally Young et al. further teaches that the access door (32) is capable of sealing the wet chamber (Page 6, Line 1).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachary M. Pape whose telephone number is 571-272-2201. The examiner can normally be reached on Mon. - Thur. & every other Fri. (8:00am - 5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached at 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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